THE NORTHERN LIMITS OF SEVERAL SPECIES OF COLEOPTERA WITH SPECIAL REFERENCE TO THEIR OCCURRENCE IN THE OTTAWA DISTRICT, ONTARIO

By STANTON D. HICKS[1]

Many insects and plants that occur in southern Ontario are not found in the Ottawa District, an area embraced by a circle of thirty-mile radius centered at the Parliament Buildings in Ottawa (fig. 1). Munroe (1956, p. 400) specifically states, "More than thirty species of trees occur in the Niagara Peninsula that do not occur at Ottawa, and a similar contrast extends throughout the fauna and flora." The Ottawa District as depicted in the accompanying map is in the hemlock-white pine-northern hardwoods region, equivalent to the Great Lakes-St. Lawrence region plus the Acadian region of Halliday, all of which is a tremendous tract extending from southeastern Manitoba to the Atlantic coast. During the years 1948 to 1961, while assisting in the maintenance of the Canadian National Collection and collecting insects in the Ottawa area, I noted that several species of beetles, which I had collected in southern Ontario, were relatively uncommon here. Records of such species form the subject of the present paper. A number of interesting species found near Constance Bay have been excluded because the unusual faunal characteristics of this area have not been adequately studied. The localities referred to are underlined in the map.

Cicindela punctulata Olivier (Cicindelidae). This is one of the most widely distributed tiger beetles in the United States. It can be easily collected in southern Ontario, and according to Wallis (1961, p. 61) it ranges northeast through London, Guelph, Toronto, Kettleby, and Leskard to eastern Ontario. It has been taken in small numbers at Marmora and recently was collected for the first time in the Ottawa District near Bells Corners and in Ottawa at Britannia Heights. The species appears to be restricted to these two District areas on open, sandy soil. The northernmost record is by Hubbard and Schwarz (1878, p. 627) in the Lake Superior region.

In 1964 the author collected fourteen specimens of *C. punctulata* at Beechgrove, near Quyon, Quebec. This appears to be the first authentic record for Quebec; previously, Beaulieu (1900, p. 140) and Beaulne (1914, p. 123) listed the species without locality records.

The seemingly disjunct distribution of this beetle in Canada as recorded by Wallis starts again in southern Manitoba at Aweme, Hartney, and Treesbank, continues to Estevan in Saskatchewan, and Medicine Hat, Burdette, Lethbridge, and Happy Valley in Alberta.

Zonitis bilineata Say (Meloidae). In the United States, this meloid ranges in the East from South Carolina and Kansas northward to Connecticut and Minnesota. It seems to be a rarity in Canada, although perhaps it has been overlooked, since the specimens in the National Collection show that it has been found only from July 7 to July 18. At Windsor, Ontario, a few specimens were collected on the flower heads of thistle, *Cirsium* sp., and one specimen has been taken at Marmora. In the Ottawa District only three specimens are known, from Britannia Bay in Ottawa and Bells Corners.

---

[1] Entomology Research Institute, Research Branch, Canada Department of Agriculture, Ottawa, Ontario.

Agrilus celti Knull and *A. lecontei* Saunders (Buprestidae). These small buprestids have a broad range in the United States wherever their hackberry host, *Celtis occidentalis* L., occurs. In the Canadian National Collection there is a series of each species from the numerous hackberry trees in the Point Pelee area of southern Ontario. The only other Ontario record was a series of each species collected by the author in a large hackberry grove at Carleton Place in the Ottawa District, some four hundred miles to the northeast (Hicks, 1960).

It is very possible that the hackberry tree is native to Canada only at Point Pelee and other Carolinian zone sites along the shore of Lake Erie. However, it has been recorded sparingly at scattered localities from London in the southwest to the Ottawa Valley area, and Montreal, the northernmost station. Every one of these localities is on or near water routes formerly used by Indians who had the habit of eating the hackberry nuts as they travelled. How these two species of beetles came to exist on the hackberry at Carleton Place with no records from the south for hundreds of miles is not known.

Phyllophaga futilis (LeConte) (Scarabaeidae). This species was originally described (Agassiz, 1850, p. 226) from the Lake Superior region, the most northern recorded locality. It has been recorded in all parts of the eastern United States and at many points in the southern parts of Ontario (Brown, 1929 and Luginbill, 1953). In the Ottawa District, *P. futilis* is unquestionably a common species but it was not recorded here prior to 1959. Since then, many specimens have been collected in or near the city of Ottawa and south of it at numerous locations both in and outside the District. This scarab has not been recorded due west or east of Ottawa in Ontario and it is not known across the Ottawa River to the north or anywhere in the province of Quebec.

Macrodactylus subspinosus (Fabricius) (Scarabaeidae). The rose chafer is known to range from Colorado, Indiana, Virginia, and the Atlantic States into southern Ontario. It has been an economic pest for many years from Windsor to the Niagara River. Farther north and east, it has been collected at Oakville, Toronto, Belleville, Brockville, and occasionally near the limit of the Ottawa District on the south side at Elgin and Chesterville, and on the east side at Plantagenet. Recent observations show that the species is well established in the District. In 1963, hundreds of adults were observed on the flowers of *Spiraea* sp. at Mer Bleue, a large, cold, bog area. At Kemptville, larvae were common in soil. Adults have also been collected at Britannia Heights in Ottawa, Vernon, and Bourget.

The most northerly record is that of a single specimen collected by Beaulieu (1903, p. 38) at Yamachiche on the north shore of the St. Lawrence River in Quebec. The rose chafer has been reported from several localities in southern Quebec but apparently not in abundance.

Pelidnota punctata (Linnaeus) (Scarabaeidae). This beetle is widespread in the eastern half of the United States as indicated by specimens in the Canadian National Collection from Texas, Oklahoma, Missouri, Tennessee, Kentucky, and Massachusetts. In Ontario, according to the records of the Canadian Insect Pest Review, this species was reported as early as 1871; since then it has been recorded from near Lake St. Clair east to London, the Niagara Peninsula, Toronto, Port Hope, Courtice, Kingston, Marmora, and Newboro. It was first recorded in the Ottawa District in 1946 at Westboro, now part of the city of Ottawa; more recently it has been found infrequently at several other sites in the city and at Winchester, Osgoode, and Richmond. The most recent records are at Kerr Lake near Lanark, and L'Original, just outside the District. This insect is a pest of cultivated grapes in southern Ontario. In the Ottawa region where cultivated grapes are scarce it probably feeds on Virginia creeper and wild grape.

The first records (Robert, 1946) for Quebec were at Rigaud in 1945 and Montreal in 1946. The only others (Robert, 1962) were at Saint-Jean and Terrebonne in 1961, the latter being the most northern anywhere.

Euphoria inda (Linnaeus) (Scarabaeidae). The bumble flower beetle is widely distributed in the United States from Florida and Texas northward. It is common in southern Ontario and ranges northeast through the areas around Toronto, Belleville, Muskoka, and Arnprior to Ottawa. Only three separate records during the last twenty years have been taken in or near Ottawa, indicating that the species is rare in the District. Beaulieu (1903, pp. 110-111) noted that this beetle was common at Montreal, Quebec, and it has been recorded from nearby localities south of Montreal. It has also been recorded at Norway Bay, Quebec, just outside the District. In the Canadian West, the species has been reported from Elgin, Brandon, Winnipeg, and Cartwright in Manitoba, and Aden, Schuler, and Medicine Hat in Alberta.

Desmocerus palliatus (Forster) (Cerambycidae). The cloaked knottyhorn ranges from Louisiana and North Carolina in the United States up into southern Ontario. It occurs commonly in the Niagara Peninsula; northeast of here it has been recorded from Toronto, Peterborough, Marmora, Lyn, and into the Ottawa District. Here it is not common but has been reported at Manotick, Britannia Bay in Ottawa, and Ottawa. Gosse (1840, p. 225) stated that this beetle was not uncommon at Compton, Quebec, and other records from Montreal (Chagnon, 1905, p. 28), Sweetsburg, Knowlton, and St. Chrystostome show that it is known from southern Quebec. There are two, isolated records given in the Canadian Insect Pest Review, one at Sillery, just south of Quebec City on the north shore of the St. Lawrence, and the other at St. Johns, Newfoundland.

Anoplitis philemon (Newman) (Chrysomelidae). North American specimens of this leaf-mining chrysomelid were identified by Gilbert Arrow of the British Museum in 1945 (H. R. Dodge *in litt.*). The species is not well known and there is little in the literature to resolve a geographical picture of its distribution.

In the Niagara Peninsula of southern Ontario, this leaf-miner attracted my attention when I found a population at De Cew Falls (five miles south of St. Catharines) infesting leaves of wood nettle, *Laportea canadensis* (L.) Wedd. Several years' observations showed that most of the adults in this population were blackish but there were a few noticeable pale forms. Color variation also occurred among the larvae and pupae. Dodge (1942, *in litt.*) had also seen color differences and noted especially the very marked difference in the proportion of the two colors between populations observed at Clintonville, Wisconsin, and Carlisle, Pennsylvania; according to him it was the opinion of H. S. Barber of the National Museum, Washington, D. C., that the pale form was an allelic and that no name should be assigned to it.

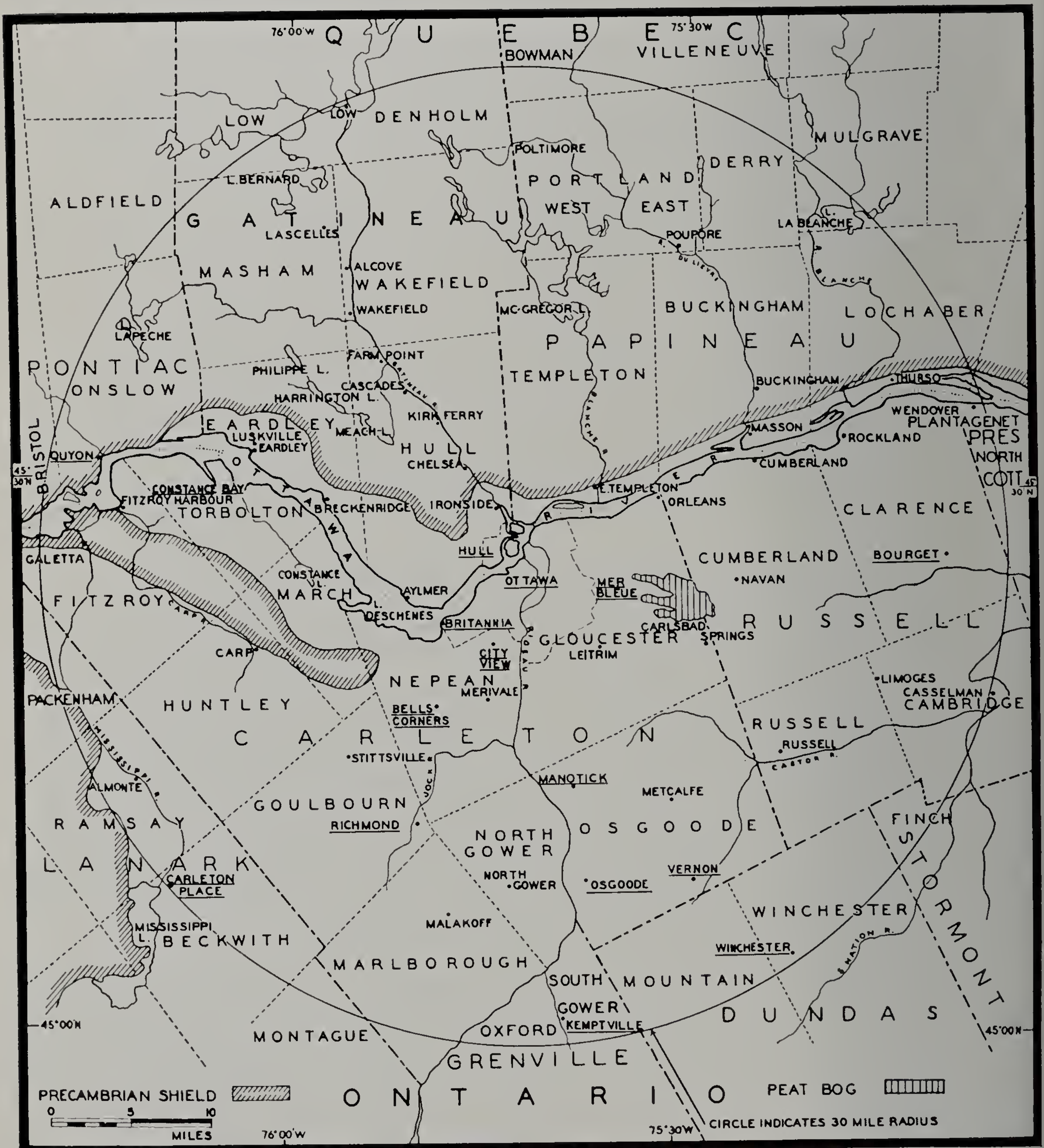

FIGURE 1, Map of the Ottawa District.

In the Ottawa District, this beetle was recently discovered in a small woods in Britannia Heights in Ottawa and across the Ottawa River at Fairy Lake near Hull, Quebec. It was of interest to find that the series of adults collected in each place were all blackish. Although the host of this species has a more or less continuous distribution from De Cew Falls to the Ottawa District, the writer knows of no specimens collected between these two widely separated localities. These records are slightly more northern than those at Clintonville, Wisconsin.

Another *Anoplitis* sp. that is poorly known in the United States (H. R. Dodge *in litt.*) and Canada mined the leaves of climbing bittersweet, *Celastrus scandens* L., in southern Ontario where populations were observed for several years at Windsor, De Cew Falls, and Niagara-on-the-Lake. The host is common to the northeast into the Ottawa District but the distribution of the insect appears to be limited. The author was never able to find adults of this species in the District but four dead pupae, one in each of four mined leaves, were found at Britannia Bay in Ottawa.

Rhodobaenus tredecimpunctatus (Ill.). This species and its varieties, known as the cocklebur billbugs, occur throughout the United States where they feed mostly on species of Compositae. In Ontario, the species has only been found in Ottawa District localities; a few specimens were collected from the purplish flower heads of a Joe-Pye-Weed, *Eupatorium* sp., at Britannia Bay in Ottawa and a few near Uplands Airport, Ottawa. In Quebec, one specimen was taken at Berthierville, the northern recorded locality for the species.

LITERATURE CITED

AGASSIZ, L.
1850. Lake Superior: its physical character, vegetation and animals, compared with those of other and similar regions. Gould, Kendall, and Lincoln, Boston. 428 pp.
BEAULIEU, G.
1900. Les Cicindeles de la Province de Québec. Nat. Canad. 27:136-140.
1903. Les Scarabéides de la Province de Québec. Nat. Canad. 30:38-42.
BEAULNE, J.
1914. Les Coléoptères du Canada. Nat. Canad. 40:122-123.
BROWN, W. J.
1929. Ann. Rpt. Ent. Soc. Ont. 59:119.
CHAGNON, G.
1905. Longicornes de la Province de Québec. Nat. Canad. 32:25-29.
GOSSE, P. H.
1840. The Canadian Naturalist. John Van Voorst, London. 372 pp.
HICKS, S. D.
1960. Entomological interest in a rare grove of hackberry at Carleton Place, Ontario. Canad. Field Nat. 74:174-175.
HUBBARD, H. G., and E. A. SCHWARZ.
1878. List of Coleoptera found in the Lake Superior Region. Proc. Amer. Phil. Soc. 17:627-666.
LUGINBILL, P., SR., and H. R. PAINTER.
1953. May Beetles of the United States and Canada. U. S. Dept. Agri. Tech. Bull. 1060, 102 pp.
MUNROE, E. G.
1956. Canada as an environment for insect life. Canad. Ent. 88:372-476.

ROBERT, A.
1946. Récente découverte du *Pelidnota punctata* dans la Province de Québec. Rapp. Soc. Québec Prot. Pl. 30:189-191.
1962. Acclimatation de certains insectes au climat du Québec. Ann. Soc. Ent. Québec 7:93-95.

WALLIS, J. B.
1961. The Cicindelidae of Canada. Univ. Toronto Press, Toronto. 74 pp.

LITERATURE NOTICE

A REVIEW OF THE CLASSIFICATION OF CLEROIDEA (COLEOPTERA), WITH DESCRIPTIONS OF TWO NEW GENERA OF PELTIDAE AND OF SEVERAL NEW LARVAL TYPES. By R. A. Crowson. Trans. Ent. Soc. London 116(12):275-327, 80 figs., 1 pl. 1964.—Crowson's 1955 (Natural Classification of the Families of Coleoptera) treatment of the Cleroidea is considerably revised and explained. After discussing relationships of and within the superfamily, a key to families (7) of adults and larvae is given. Then, he presents the following keys: Phloiophilidae, only one genus, no keys; Peltidae, to subfamilies (3) of adults, to subfamilies (2) and genera (5) of larvae, to genera (4) of adult Decamerinae; Trogossitidae, to subfamilies (2) of adults and larvae, to genera (3) of adult New Zealand Lophocaterinae, to genera (5) of larval Trogossitinae; Chaetosomatidae, to genera (2) of adults; Cleridae, to subfamilies (8) of adults, to genera (6) of adults and to genera (5) of larvae of New Zealand; Phycosecidae, to species (4) of only included genus; Melyridae, to subfamilies (6) of adults and larvae, to genera (8) or species (12) of larvae. Many discussions, descriptions, or illustrations of larvae, adults, fossils, morphology, and habits explain the systematics.

DIE CRIOCERINEN AFRIKAS (COL. CHRYSOMELIDAE). By E. Heinze and W. Pinsdorf. Ent. Arb. Mus. Frey 13(1):156-270, figs. 1-18 (1962); 14(1): 252-372, figs. 19-28 (1963); 15(2):334-569, figs. 29-45 (1964).—Keys, descriptions, and some illustrations to 3 tribes, 14 genera, and 307 species are included. The genus *Lema* contains 209 of the species.

A MODIFIED MALAISE INSECT TRAP. By G. D. Butler, Jr. Pan-Pacific Ent. 41(1):51-53, illus. 1965.—The modified trap can be inexpensively made, easily transported, quickly set up, and conveniently emptied.

NOTICE

Robert R. Dreisbach of Midland, Michigan, died June 24, 1964. He was a specialist in Hymenoptera but was interested in and collected all orders of insects. His latest efforts were toward a list of the insects of Michigan.

E. O. Essig of the University of California at Berkeley died November 23, 1964. He was a teacher of entomologists and a specialist on aphids. His three books, A History of Entomology, Insects and Mites of Western North America, and College Entomology, are known to all.

James A. G. Rehn died January 25, 1965. He was an outstanding authority on the Orthopetera. However, he was known to all coleopterists as the curator of insects at the Academy of Natural Sciences of Philadelphia.